

IN THE ABSTRACT:

Please substitute the following substitute Abstract for the originally filed Abstract, wherein a marked-up version of the original Abstract is provided on the following page indicating the changes made thereto.

Substitute Abstract

A membrane-electrode structure having an electrode catalyst layer adhered to a diffusion electrode, wherein the structure is manufactured by applying a catalyst paste onto a sheet substrate, and then dried to form a plurality of electrode catalyst layers. The electrode catalyst layers are thermally transferred onto each side of a polymer electrolyte membrane to form a laminated body. A first slurry is applied on a carbon substrate layer, and dried to form a water-repellent layer, and then, a second slurry is applied on the water-repellent layer, and dried to form a hydrophilic layer to form a diffusion electrode. The diffusion electrode is then laminated on the electrode catalyst layer through the hydrophilic layer, and then pressed under heating to integrate the laminated body and the diffusion electrode.